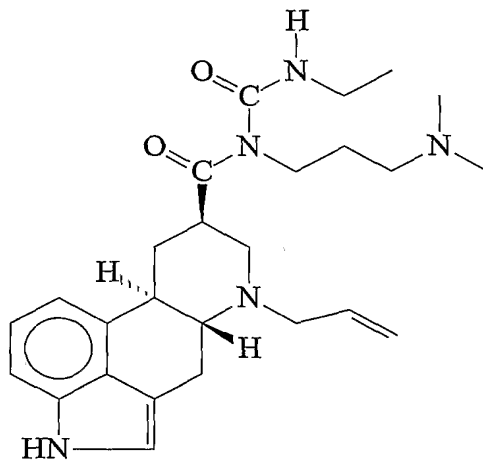


## CLAIMS:

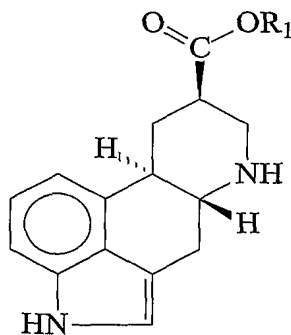
1. A process for preparing cabergoline (I)



cabergoline (I)

- 5 comprising the following steps:

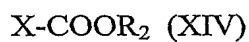
- (a) reacting the compound of formula (XIII)



(XIII)

wherein  $R_1$  is a  $C_{1-4}$  alkyl group, in the presence of a catalyst

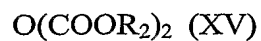
- 10 (i) with a compound of formula (XIV),



wherein  $R_2$  is an optionally substituted straight or branched  $C_{1-6}$  alkyl group,

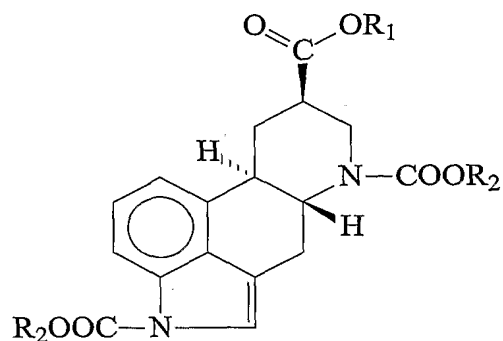
X represents a bromine or chlorine atom, or

(ii) with a compound of formula (XV),



wherein  $\text{R}_2$  is a group as defined above for formula (XIV);

5 (b) reacting the obtained carbamate derivative of formula (XVI)

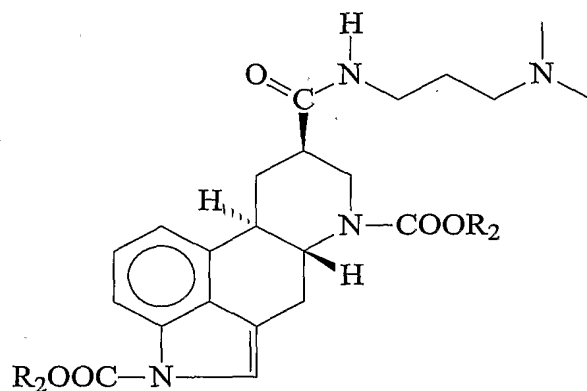


(XVI)

wherein  $\text{R}_1$  and  $\text{R}_2$  is a group as defined above, with 3-(dimethylamino)propylamine in the presence of a catalyst;

10

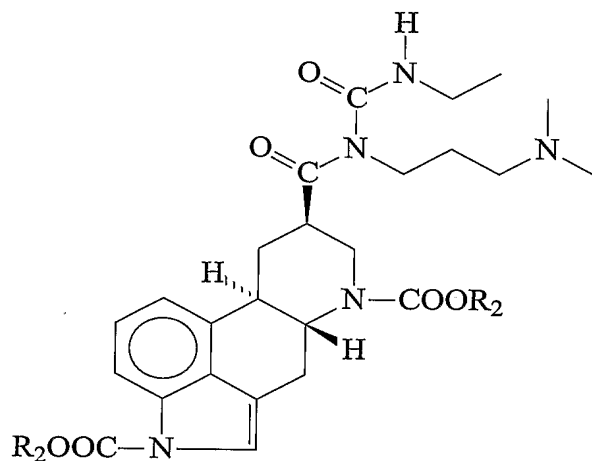
(c) reacting the obtained ergoline-8 $\beta$ -carboxamide derivative of formula (XVII)



(XVII)

wherein R<sub>2</sub> is a group as defined above, with ethyl isocyanate in the presence of ligand(s) and Ib and IIb metal group salt catalyst;

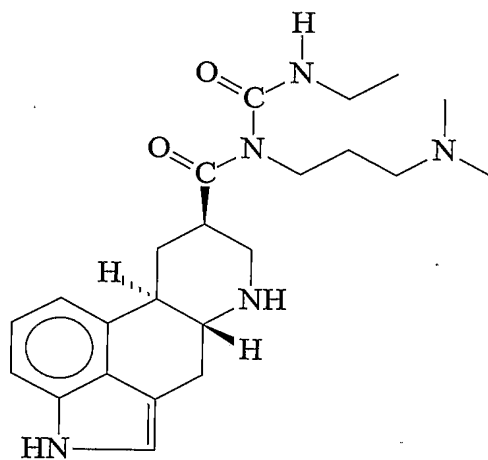
(d) reacting the obtained protected N-acylurea derivative of formula (XVIII)



(XVIII)

wherein R<sub>2</sub> is a group as defined above, with a strong aqueous inorganic acid;

(e) reacting the obtained secondary amine of formula (XIX)



(XIX)

with an electrophyl allyl alcohol derivative in the presence of a palladium or nickel containing catalyst and optionally in the presence of ligand(s) to form cabergoline (I).

2. A process according to claim 1 wherein R<sub>1</sub> is methyl and R<sub>2</sub> is *tert*-butyl.

5

3. A process according to any of claims 1 to 2 wherein step (a) is carried out at a temperature of from 0°C to 50°C in the presence of 4-dimethylaminopyridine catalyst in a hydrocarbon halide solvent.

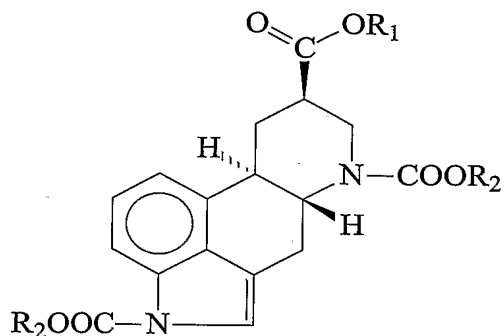
10 4. A process according to any of claims 1 to 2 wherein step (b) is carried out at a temperature of from 50°C to 70°C in an C<sub>1-6</sub> alkyl alcohol solvent in the presence of 2-hydroxypyridine catalyst.

15 5. A process according to any of claims 1 to 2 wherein step (c) is carried out in hydrocarbon halide solvent, in the presence of copper(I) chloride and/or copper(II) chloride and/or copper(I) bromide and/or copper(I) iodide catalysts and triphenylphosphine or tri-*p*-tolylphosphine ligand at a temperature of from 30°C to 50°C.

20 6. A process according to any of claims 1 to 2 wherein step (d) is carried out at a temperature of from 40°C to 80°C in aqueous hydrochloric acid.

25 7. A process according to any of claims 1 to 2 wherein at step (e) the electrophyl allyl alcohol derivative is allyl acetate, the catalyst is tetrakis(triphenylphosphine)palladium(0), and the reaction is carried out in an aromatic hydrocarbon solvent at a temperature of from 20°C to 50°C.

## 8. Compounds of formula (XVI)

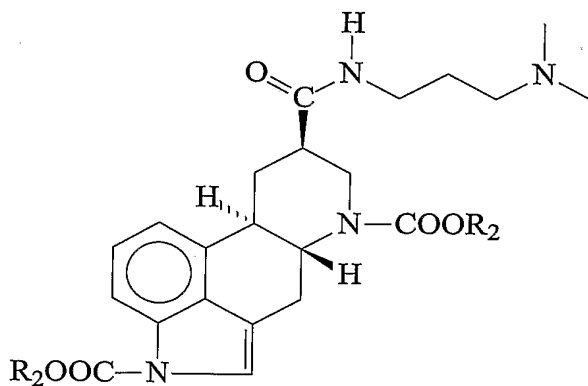


(XVI)

5 wherein  $R_1$  represents a  $C_{1-4}$  alkyl group and  $R_2$  represents an optionally substituted  $C_{1-6}$  alkyl group.

9. Compound according to claim 8 wherein  $R_1$  is methyl and  $R_2$  is *tert*-butyl.

## 10. 10. Compound of formula (XVII)



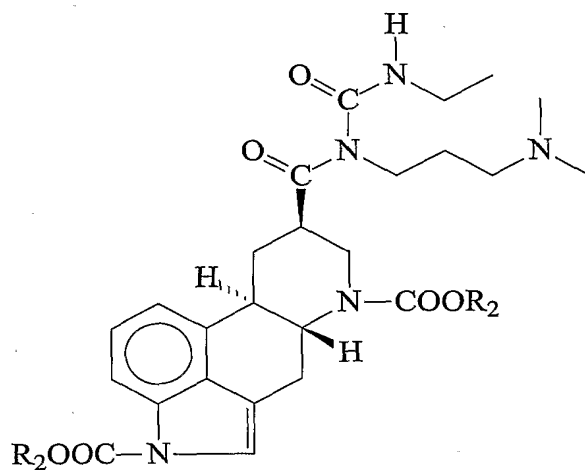
(XVII)

wherein  $R_2$  represents an optionally substituted  $C_{1-6}$  alkyl group.

15 11. Compound according to claim 10 wherein  $R_2$  is *tert*-butyl.

29

## 12. Compounds of formula (XVIII)



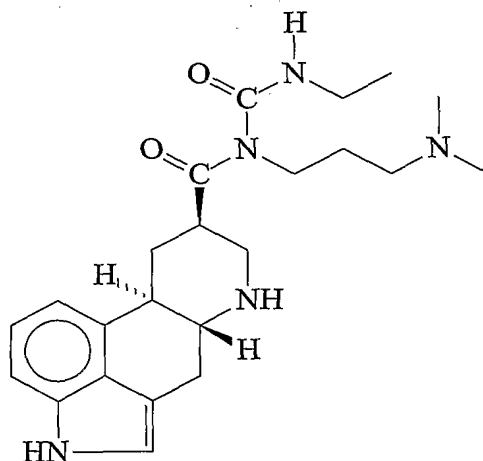
(XVIII)

wherein  $R_2$  represents an optionally substituted  $C_{1-6}$  alkyl group.

5

13. Compound according to claim 12 wherein  $R_2$  is *tert*-butyl.

## 14. Compound of formula (XIX)



(XIX)

10

## 15. The polymorphic amorphous form of Cabergoline (I).

16. Process for the preparation of the polymorphic amorphous form of Cabergoline (I) wherein the chromatographically purified oily Cabergoline (I) is dissolved in a suitable organic solvent and from the obtained solution the solvent is partially removed several times  
5 in vacuum at a temperature of from 0°C to 30°C, until not oily but solid product is obtained.
17. A process according to claim 16 wherein the solvent is acetone, methyl acetate or dichloromethane.